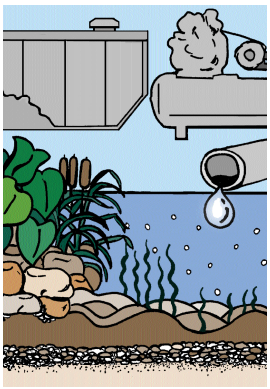
Individual Wastewater Systems



Approval Process

Sewage — Nobody wants to think about it. But if you are buying or building in an area with no public sewers, where will the wastewater go? By law, you can't let your wastewater discharge create a public health hazard or run off your own property.

Procedures for You to Follow

1. Before you buy or build, sign a Notice of Intent at the county health department.
2. Provide a plot plan and legal description to the county health department.
3. Pay a $50 fee for the county health department to conduct a soil and site evaluation on your lot.
4. Submit the Notice of Intent to your public water system so the company can provide new residential water service.
5. Select one of the wastewater system options available for your lot (see list of various treatment and disposal methods.)
6. Hire a licensed, certified installer to install your system. You may also construct the system yourself or hire a professional engineer.

Procedures the County Health Department Will Follow

1. Schedule a time to perform soil and site evaluation after the Notice of Intent, plot plan, and legal description are submitted.
2. Visit the lot, do a soil boring, and evaluate the site to determine its suitability for a design based wastewater system. Soil type and lot size are among several factors to consider.
3. Recommend system or systems that can be expected to work on the lot so you may select the one you want.

Note: *Some lots, because of small size or severe soil or site conditions, cannot support a design based IOWDS. In such cases, no system shall be recommended, but you will be referred to an engineer.*

4. Advise the homeowner and/or installer on specifications for the system that has been selected.
5. If final approval is requested, inspect the completed system before it is covered.
6. Provide information on proper maintenance.

Approval of Disposal Systems

If you request it and the system complies, the county environmentalist will make a final inspection and will issue written approval. The installer must also sign an affidavit of proper construction.

Although final approval is not required by state law, there may be local regulations:

- Some counties have ordinances requiring approval.
- Some public water systems require final approval in addition to the Notice of Intent.
- All Federal mortgage insurers and all government loans require final approval (e.g., HUD, FHA, FmHA, VA, etc.).
- Lending institutions, such as banks and savings and loans, may require final approval.

Information for Homeowners

Individual On-site Wastewater Disposal Systems (IOWDS)

An IOWDS disposes of sewage in two steps. The first step is treating the raw sewage. The second step is disposing of wastewater.

Treatment Methods

Raw sewage must be treated. The county health department will advise which of the following methods is best for your lot.

- A septic tank settles out most solids. The wastewater that remains can go directly into the ground if the soil will absorb it or can be treated further in a sand filter, plant rock filter, or a lagoon.
- Aerobic treatment plants aerate the wastewater through agitation and/or injection of air into the tank. The resulting outflow is lower in suspended solids than effluent from a septic tank.

Wastewater Disposal Methods

All disposal methods must keep the wastewater on the property of the person who generated the waste, either on his own land or on land on which he has a legal easement.

Conventional Underground Absorption

- For any conventional system to work, soil must adequately absorb the wastewater.
- Standard wastewater disposal systems are perforated pipes in beds or trenches of gravel.The gravel beds must be no deeper than 36 inches below the surface.These systems must have a minimum 12 inches of soil on top of the gravel.
- The gravel replacement systems use alternative technology to replace gravel in the soil absorption system.
- Shallow or ultra-shallow systems can sometimes be used where the depth to the water table is less than the minimum required. Placement may be as shallow as twelve inches for gravel systems or six inches for some types of gravel replacement systems. Twelve inches of suitable soil must be used for covering, producing a slightly mounded field area.
- An alternating disposal system provides two complete fields, separated by a valving system so that each field could be used and rested alternately.

Alternate Methods of Treatment and Disposal

Sand filters — Sand filters are beds of sand 12 to 24 inches deep, with graded gravel and collecting pipes underneath. Distribution pipes carry wastewater to the surface of the bed, which filters outflow from septic tanks or aerobic treatment plants. Water from the collecting pipes is chlorinated prior to disposal.

Lagoons — Where soil conditions preclude the use of underground absorption, a small lagoon or oxidation pond can be used to treat septic tank outflow. Average size for home installation is 25 ft x 25 ft. The outflow can run onto the property owner's land if the area is large enough (see Overland Discharge below).

Sand mounds (*Wisconsin Mound*) —

A mound system is a soil absorption method placed above the natural soil surface and constructed with suitable fill material. The system is designed to overcome site restrictions such as porous soils with high water tables. The design is technical and may require specialized skill in design and construction.

Subsurface drip irrigation — The only underground system that can be placed in clay soil or in fill, it uses small diameter regulators which let wastewater drip out slowly. The system provides for uniform distribution of effluent, which previously has been adequately treated and filtered.

Plant/rock filter system — Aquatic plants grow in a rock trench, filtering the septic tank or treatment plant effluent. The plants, along with microorganisms, remove organics from the wastewater. Shallow underground absorption or chlorination follows, prior to disposal to land. This system may also be used to treat wastewater from malfunctioning "seeping" absorption field lines on existing systems.

Spray irrigation *(Sprinkler Systems)* —Wastewater disposal by spray irrigation may be considered if the lot is large enough. Treated effluent must be adequately chlorinated and sprayed evenly over the surface of the ground area. Certain buffer zone distances are required. A viable cover crop shall be maintained on all sprayed areas.

Overland discharge — Discharge of treated, chlorinated wastewater on top of the land may be used when soil is not suitable for underground absorption. The land area where the water drains must be maintained to prevent surface accumulation or ponding. The lot must be of sufficient size to keep the wastewater on the property and maintain certain required buffer zones.

MISSISSIPPI STATE DEPARTMENT OF HEALTH

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